

JULY 18, 2002

MEMORANDUM

To: San Juan River Basin Recovery Implementation Program (SJRIIP) Coordination Committee

From: Pat Page, Chairman, SJRIIP Hydrology Committee

Subject: Status of the San Juan River Basin Hydrology Model

The following status report on the San Juan River Basin Hydrology Model has been developed pursuant to the June 14, 2001, Final Proposal entitled SJRIIP Recommendation for Hydrology Committee, and now included as Section 5.1.3. of the Program Document.

BACKGROUND:

The SJRIIP Hydrology Committee was created as a formal committee of the SJRIIP in 2001. The purpose of the Hydrology Committee is to review and evaluate all hydrology-related information pertinent to the SJRIIP. The Hydrology Committee provides advice to the Biology Committee and the Coordination Committee regarding hydrologic aspects of the SJRIIP for endangered fish and evaluates proposed changes to the Hydrology Model and the flow recommendations.

In September 2000, the Hydrology Committee submitted a budget to the Coordination Committee of \$400,000 for the purposes of developing a third generation model. The third generation model is being developed to repair known deficiencies with the existing model and to create a more robust decision model. The initial schedule was for completion of work by September of 2001. For a variety of reasons, including a delay in receiving WAPA funds, unavailability of Reclamation staff to carry out the work, and additional tasks not considered in the initial estimate, the schedule and budget were revised. The new budget was revised and included a budget request of \$533,500 (\$170,100 in FY2001 and 363,400 in FY2002). It was anticipated that development of the third generation model could be completed in September 2002.

STATUS

Work that was completed in FY2001 includes:

- Migration to rules to RPL
- Development of StateMod data management interfaces
- Implementation of StateMod return lagging in RiverWare
- Testing of StateMod procedures in RiverWare; GIS and other data evolution
- Development of database to support StateMod/RiverWare interfacing
- Development of Hydrology Model web page
- Design of a modeling system that integrates StateMod and RiverWare models
-

Work that has been completed in FY2002 includes:

- Evolution of data management interfaces and database
- Evolution of main stem reconfiguration and associated data
- Development of depletions spreadsheets
- Specification and implementation of flow recommendations performance computations in RiverWare
- Evolution of StateMod and RiverWare models

Also in FY2002, Keller-Bliesner Engineering has been contracted to assist Reclamation in reconfiguring the model. Tasks contracted for include assisting in the following: identifying and quantifying incidental losses, identifying and developing disaggregation methods and support data, identifying and quantifying off-stream depletions, formulating operating criteria for the model, and developing documentation for the work completed.

OUTLOOK

To date (as of the end of June 2002), approximately 70% of the funds for Fiscal Year 2002 have been expended by Reclamation. In addition, 100% of the funds identified for contract work have been obligated. It is anticipated that all of the SJRIP funds received by Reclamation through the Hydrology Committee for Fiscal Year 2002 will be either expended or obligated through contract. This includes the \$363,400 for Third Generation Model Development, \$23,000 for Improving Stream Gaging and Flow Measurements, and \$10,000 for Additional Model Runs. (Note: The \$10,000 for Additional Model Runs was used to partially cover additional coordination and administration expenses incurred as a result of a new chairman coming on board in the second quarter of the fiscal year.)

The majority of the technical work on the development of the third generation model will be completed by the end of Fiscal Year 2002. Some technical work originally scheduled for Fiscal Year 2002 did not get completed due to a variety of reasons including unforeseen additions to the work load and staff availability. Work to complete the model that will carry over into Fiscal Year 2003 includes completing the building and testing of the revised decision model, analyzing runs of the revised decision model, and completing full documentation of the model development.

The request for Fiscal Year 2003 funding will include the following:

Proposal 1 - Completion of Third Generation Hydrology Model	= \$54,500
Proposal 2 - Model Maintenance and Operation	= \$77,500
Proposal 3 - Improve Stream Gaging and Flow Measurement	= <u>\$25,000</u>

TOTAL REQUEST FOR FY2003 = \$157,000

It is anticipated that the third generation model development work will be completed by June 2003. It is also anticipated that Reclamation, in developing the third generation model, will consider input from program participants, incorporate modifications to data and modeling methods, and document the model data and methods. If you have any questions regarding this report, please contact me at (970) 385-6560, or ppage@uc.usbr.gov.